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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,468	08/23/2001	Tatsuya Oka	P20961	8436

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EXAMINER

HYEON, HAE M

ART UNIT PAPER NUMBER

2839

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/934,468

Applicant(s)

OKA ET AL.

Examiner

Hae M Hyeon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onizuka (5,877,944) in view of Murakami (6,354,846 B1) and Smith et al (6,126,457).

Onizuka discloses an electrical connector housing comprising a first shell 1, a second shell 2, connector mounts 1b and 1c, a fuse mount 1d, a relay mounts 1f, and a circuitry 3. The first shell 1 is mountable on the second shell 2. The first shell 1 is provided with the connector mounts 1b and 1c to be fitted with connectors 17, the fuse mount 1d to be fitted with a fuse 20, and a relay mount 1f to be fitted with a relay 21. The electrical connector housing contains a busbar stack 4, which includes a connector, a fuse and a relay circuitry modules containing connector-connecting circuits, fuse-connecting circuits, and relay-connecting circuits connected to the connector mount 1b and 1c, to the fuse mount 1d, and to the relay mount 1f, respectively. The busbars 4 include tabs 4a, which are connected to both the fuse 20 and the relay 21. However, Onizuka does not disclose the busbars tabs 4a having notches configured to hold the fuses and the relays and the material used to form the busbars 4.

Murakami discloses an electrical connector housing 10 having busbars 15 formed from an electrically conductive metal plate of brass, pure copper, or copper alloy into a desired wiring shape. Furthermore, Smith teaches the busbar 66 can be made from various types of stamped

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metal. Also, the busbar 66 of Smith includes a plurality of tabs having a notch configured to hold fuses or relays 12. A notch formed on a contact for holding a terminal (contact) of a mating connector is well known in the art.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the busbars taught by Onizuka such that it would be formed from copper alloy as taught by Muakami and Smith because it only deals with using a preferred material from the known materials. **It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.**

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onizuka, Murakami, and Smith as applied to claims 1, 2, and 4-12 above, and further in view of Hara (5,578,008), Fajt (4,439,801), and Pugh et al (4,415,830).

Claim 3 recites that the busbars are iron. However, Onizuka does not disclose a material used to form the busbar 4. On the other hand, Hara discloses a wire made of iron, platinum-rhodium, tungsten, or nitrol. Fajt discloses a conductor made of iron with copper coated. Therefore, Fajt teaches the use of copper and iron together. Lastly, Pugh teaches an electric lamp having iron wires.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to the busbar taught by Onizuka such that it would be made of iron as taught by Hara, Fajt and Pugh because **copper and iron are interchangeable** since both elements are well known conductive materials. Furthermore, the official notice is taken that it is a scientific fact that iron is stiffer, rigid, and stronger than copper. Also, it is well known that

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iron is conductive and can be exchanged with copper without changing the function of a device.

Thus, a person having ordinary skill in the art knows to use iron over copper for a conductor that requires a strength stronger than copper.

### *Response to Arguments*

4. Applicant's arguments filed February 7, 2003 have been fully considered but they are not persuasive. The applicant argues that all the cited references do not disclose some of busbars formed of a resilient material harder than pure copper, which can be iron, and one busbar formed of pure copper. The examiner agrees with the applicant that the cited references **do not recite literally** that the busbars are made of a resilient material harder than pure copper (for example iron) and a pure copper. However, the examiner believes that the cited references in the second Office Action filed on November 7, 2003 do teach the busbars formed of pure copper, a resilient material harder than pure copper such as a copper alloy or iron in view of the paragraphs [0012] and [0013] of the present specification.

Paragraph [0012] states, "The resilient conductor that is harder than pure copper is preferably **a copper alloy**."

Paragraph [0013] states, "Alternatively, the resilient conductor that is harder than pure copper is **iron**."

Murakami teaches that the busbars are formed from an electrically conductive metal plate of brass, **pure copper, or copper alloy** into a desired wiring shape. Therefore, it is inherently Murakami teaches the resilient conductor that is harder than pure copper because Murakami used copper alloy to form the busbars. Furthermore, the examiner cited the references Hara

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(5,578,008), Fajt (4,439,801), and Pugh et al (4,415,830) to prove that copper can be replaced with iron (see above Rejection paragraph 3). Since, the examiner clearly described all the limitations of the structure of an electrical connector housing of the instant invention with the reference by Onizuka (5,877) in view of Murakami (6,354,846 B1) and Smith et al (6,126,457) and the materials for the busbars with the references by Murakami, Hara, Fajt, and Pugh, all the limitations recited in claims 1-12 have been met. Therefore, the examiner believes the Rejections stated in the Office Action filed on November 7, 2003 are appropriate.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 703-308-4802. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D Feild can be reached on 703-308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hae M Hyeon  
Examiner  
Art Unit 2839

hnh

March 21, 2003

  
LYNN FEILD  
SUPERVISORY PATENT EXAMINER  
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